

REMARKS

Claims 1-52 are pending. Claims 1-23 and 44-52 are under examination. Claims 1 and 13 have been amended. Support for the amendments can be found throughout the specification and the claims as filed. In particular, support for the amendment to claims 1 and 13 can be found in original claims 1 and 13. Accordingly, these amendments do not raise an issue of new matter and entry thereof is respectfully requested.

Rejections Under 35 U.S.C. § 112, First Paragraph

The rejection of claims 1-12 and 44-50 under 35 U.S.C. § 112, first paragraph, as allegedly lacking sufficient written description is respectfully traversed. Applicants submit that the specification provides sufficient description and guidance to convey to one skilled in the art that Applicants were in possession of the claimed invention at the time the application was filed.

The Office Action asserts that the specification does not sufficiently teach a method of identifying a polypeptide wherein the method of generating an annotated polypeptide index for a specific “class” species is excluded. Applicants respectfully submit that the claims do not exclude a specific “class” species. Therefore, in contrast to the assertion in the Office action, Applicants respectfully submit that the specification provides sufficient description and guidance for the claimed methods. Accordingly, Applicants respectfully request that this rejection be withdrawn.

The rejection of claims 13-23, 51 and 52 under 35 U.S.C. § 112, first paragraph, as allegedly lacking sufficient written description is respectfully traversed. Applicants submit that the specification provides sufficient description and guidance to convey to one skilled in the art that Applicants were in possession of the claimed invention at the time the application was filed.

The Office Action asserts that the specification does not sufficiently teach a method of identifying a polypeptide wherein the method of generating an annotated polypeptide index for a specific “class” species is excluded. Applicants respectfully submit that the claims do not exclude a specific “class” species. Therefore, in contrast to the assertion in the

Office Action, Applicants respectfully submit that the specification provides sufficient description and guidance for the claimed methods. Accordingly, Applicants respectfully request that this rejection be withdrawn.

The rejection of claims 1-23 and 44-52 under 35 U.S.C. § 112, first paragraph, as allegedly lacking sufficient written description is respectfully traversed. The Office Action indicates that this is a “scope written description rejection.” Applicants submit that the specification provides sufficient description and guidance to convey to one skilled in the art that Applicants were in possession of the claimed invention at the time the application was filed.

The Office Action asserts that the specification does not sufficiently teach a method of identifying a polypeptide using a reference polypeptide database that is not a sequence database. Applicants discuss in more detail below the meaning of the phrase where the annotated polypeptide index is not a sequence database. Nevertheless, this phrase has been deleted from the claims. Therefore, in contrast to the assertion in the Office Action, Applicants respectfully submit that the specification provides sufficient description and guidance for the claimed methods. Accordingly, Applicants respectfully request that this rejection be withdrawn.

The rejection of claims 11-23 and 44-52 under 35 U.S.C. 112, first paragraph, as allegedly lacking sufficient written description is respectfully traversed. Based on comments in the Office Action, it appears that it was intended for claims 1-23 to have been rejected, and the comments are based on this assumption.

The Office Action indicates that the phrase “with the proviso that the annotated polypeptide index is not a sequence database” recited in claims 1 and 13 does not have support in the specification and claims as filed and alleges that this phrase introduces new matter. Applicants respectfully submit that this rejection has been rendered moot by deletion of this phrase from the claim. Nevertheless, the following comments are made with respect to the assertions in the Office Action.

Applicants respectfully maintain that the specification provides sufficient description and guidance for the recited phrase. The specification teaches that a polypeptide index can be based on deduced characteristics associated with a polypeptide, which can be based on a sequence database (page 18, lines 22-26), and that an annotated polypeptide index has at least one empirically determined characteristic for each polypeptide in the index, and can be a combination of deduced and empirically determined characteristics. Since an annotated polypeptide index has at least one empirically determined characteristic, an annotated polypeptide index cannot be based solely on deduced characteristics from a sequence database. Therefore, the phrase “with the proviso that the annotated polypeptide index is not a sequence database” merely incorporates the definition of an annotated polypeptide index, that is, an index having at least one empirically determined characteristic. However, this phrase does not indicate that an annotated polypeptide index cannot include characteristics deduced from a sequence database. Therefore, Applicants respectfully disagree with the assertion in the Office Action that “the claimed annotated polypeptide index exclude sequence database.” To the contrary, the specification teaches that an annotated polypeptide index can be based on a combination of empirically determined characteristics and deduced characteristics based on a sequence database (page 18, line 22, to page 19, line 5; page 31, lines 17-21).

Applicants respectfully submit that the specification provides sufficient description and guidance for the phrase “with the proviso that said annotated polypeptide index is not a sequence database.” Nevertheless, this phrase has been deleted from the claims. Therefore, Applicants respectfully submit that this rejection has been rendered moot and request that this rejection be withdrawn.

Rejections Under 35 U.S.C. § 112, Second Paragraph

The rejection of claims 11-23 and 44-52 under 35 U.S.C. § 112, second paragraph, as allegedly indefinite is respectfully traversed. The Office Action indicates that clarification is needed regarding the terms “second characteristic” and “empirically determined characteristic.” Applicants respectfully submit that this rejection has been

rendered moot by the deletion of the term “second characteristic.” Accordingly, Applicants respectfully request that this rejection be withdrawn.

Rejections Under 35 U.S.C. § 102

The rejection of claims 1 and 4-8 under 35 U.S.C. § 102(a) as allegedly anticipated by Masselon et al., Anal. Chem. 72:1918-1924 (2000), is respectfully traversed. Applicants respectfully submit that these claims are novel over Masselon et al.

Applicants respectfully submit that Masselon et al. does not teach the claimed methods. The Office Action indicates that Masselon et al. describes performing a search by first generating a list of the masses of all possible tryptic fragments, and Applicants respectfully disagree with the assertion in the Office Action that such a list of all possible tryptic fragments are empirically determined characteristics. Applicants respectfully submit that Masselon et al. does not teach the use of a database of empirically determined characteristics and therefore provides no teaching of the generation of an annotated polypeptide index having at least one empirically determined characteristic.

In corroboration of Applicants’ assertion that Masselon et al. does not teach the claimed methods, submitted herewith is a third party Declaration by Dr. David G. Camp (Exhibit A). Applicants wish to bring to the Examiner’s attention that Dr. Camp was provided a copy of the claims as they are currently being amended for his review during preparation of his Declaration. Dr. Camp is an expert in the field of proteomics and mass spectrometry, as evidenced by his attached curriculum vitae (Exhibit B).

As indicated in the Declaration, Dr. Camp has reviewed the reference by Masselon et al. and attests that Masselon et al. does not describe the use of an annotated polypeptide index. Applicants submit that the Declaration by Dr. Camp corroborates Applicants’ position that Masselon et al. does not teach the claimed methods. Accordingly, Applicants maintain that the claimed methods are novel over Masselon et al. and respectfully request that this rejection be withdrawn.

The rejection of claims 1, 2, 8-12 and 50 under 35 U.S.C. § 102(b) as allegedly anticipated by Yates, J. Mass Spectrom. 33:1-19 (1998), is respectfully traversed. Applicants respectfully submit that these claims are novel over Yates.

Applicants respectfully submit that Yates does not teach the claimed methods. Applicants submit that Yates does not teach the use of a database having empirically determined characteristics and therefore provides no teaching of the generation of an annotated polypeptide index having at least one empirically determined characteristic.

In corroboration of Applicants' assertion that Yates does not teach the claimed methods, Applicants refer to Dr. Camp's third party Declaration. As indicated in the Declaration, Dr. Camp has reviewed the reference by Yates and attests that Yates does not describe the use of an annotated polypeptide index. Applicants submit that the Declaration by Dr. Camp corroborates Applicants' position that Yates does not teach the claimed methods. Accordingly, Applicants maintain that the claimed methods are novel over Yates and respectfully request that this rejection be withdrawn.

The rejection of claims 1, 2, 12, 44 and 50 under 35 U.S.C. § 102(b) as allegedly anticipated by Clauser et al., Proc. Natl. Acad. Sci. 92:5072-5076 (1995), is respectfully traversed. Applicants respectfully submit that these claims are novel over Clauser et al.

Applicants respectfully submit that Clauser et al. does not teach the claimed methods. Applicants submit that Clauser et al. does not teach the use of a database of empirically determined characteristics and therefore provides no teaching of the generation of an annotated polypeptide index having at least one empirically determined characteristic.

In corroboration of Applicants' assertion that Clauser et al. does not teach the claimed methods, Applicants refer to Dr. Camp's third party Declaration. As indicated in the Declaration, Dr. Camp has reviewed the reference by Clauser et al. and attests that Clauser et al. does not describe the use of an annotated polypeptide index. Applicants submit that the Declaration by Dr. Camp corroborates Applicants' position that Clauser et al. does not teach the claimed methods. Accordingly, Applicants maintain that the claimed methods are novel over Clauser et al. and respectfully request that this rejection be withdrawn.

Rejections Under 35 U.S.C. § 103

The rejection of claims 1-12 and 44-50 under 35 U.S.C. § 103 as allegedly obvious over Clauser et al., *supra*, and Gygi et al., Nat. Biotechnol. 17:994-999 (1999), is respectfully traversed. Applicants respectfully submit that these claims are unobvious over Clauser et al. and/or Gygi et al.

As discussed above and corroborated by the third party Declaration by Dr. Camp, Clauser et al. does not teach or suggest the claimed methods. Furthermore, Gygi et al. does not cure the deficiencies of the primary reference. Therefore, Applicants respectfully submit that Clauser et al., alone or in combination with Gygi et al., does not render the claimed methods obvious and, accordingly, respectfully request that this rejection be withdrawn.

The rejection of claims 13-23, 51 and 52 under 35 U.S.C. § 103 as allegedly obvious over Clauser et al., *supra*, and Gygi et al., *supra*, is respectfully traversed. Applicants respectfully submit that these claims are unobvious over Clauser et al. and/or Gygi et al.

As discussed above and corroborated by the third party Declaration by Dr. Camp, Clauser et al. does not teach or suggest the claimed methods. Furthermore, Gygi et al. does not cure the deficiencies of the primary reference. Therefore, Applicants respectfully submit that Clauser et al., alone or in combination with Gygi et al., does not render the claimed methods obvious and, accordingly, respectfully request that this rejection be withdrawn.

In light of the amendments and remarks herein, Applicants submit that the claims are now in condition for allowance and respectfully request a notice to this effect. The Examiner is invited to call the undersigned agent if there are any questions.

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To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 502624 and please credit any excess fees to such deposit account.

Respectfully submitted,

MCDERMOTT WILL & EMERY LLP

A handwritten signature in black ink, appearing to read "Deborah L. Cadena".

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Attachments: Exhibits A & B

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